

## COMMENTS ON THE USPS FILING OF FY2007 ANNUAL COMPLIANCE REVIEW DATA

My comments below concern the following:

- (1) the Periodicals Worksharing Discount table included in USPS-FY07-LR-3;  
and
- (2) the Periodicals Outside County flats model included in USPS-FY07-LR11.

### 1. THE PERIODICALS WORKSHARING DISCOUNT TABLE

The worksharing discount table for Outside County Periodicals indicates, in spreadsheet row 12, that the unit cost differential between (1) machinable non-automation flats with 5-digit bundle presort and (2) carrier route presorted flats, is 7.7 cents. Since the current carrier route discount is 10.7 cents, this appears to imply a passthrough factor equal to 138.8%.

However, the 7.7 cents cost figure is incorrect for the following reasons:

First, in the USPS-FY2007-LR11 Periodicals Outside County flats model spreadsheet, the table on the summary page which shows the CRA controlled total piece costs by bundle level, machinability and barcode status (cells c9:g15) gives unit costs of 8.68 cents for machinable non-automation flats with 5-digit bundle presort, and 0.47 cents for carrier route presorted flats. That indicates a mail processing cost differential between the two equal to 8.2 cents per piece.

Secondly, the practice used by both the Postal Service and the PRC over a number of rate cases has been to include a delivery cost component that is added to the mail processing cost differential used to set the rate differential between carrier route flats and flats with 5-digit presort. More precisely, the delivery cost component used is the IOCS determined cost differential between: (1) Standard non-carrier route flats; and (2) ECR basic flats. In R2006-1, that differential was two cents, or the difference between 9.299 cents and 7.309 cents. See R2006-1, PRC LR-14, in spreadsheet R2006Volumes-rev-update.xls, worksheet pc costs, cells f55-56.

According to the current filing, the FY2007 corresponding delivery cost differential is 2.9 cents. See Table 1 in USPSFY2007-LR-19, according to which the delivery cost was 11.136 cents for Standard regular flats and 8.25 cents for ECR basic flats.

Consequently, adding the delivery cost differential from LR-19 and the mail processing cost differential from LR-11, the FY2007 cost differential between carrier route and 5-digit machinable non-automation Periodicals flats is 11.1 cents, rather than the 7.7 cents indicated in LR-3. The corresponding passthrough factor then becomes 96.4%, rather than 138.8%.

Note that the above conclusion assumes no change in the Periodicals flats model in

LR-11. Note also that the mail processing cost differential calculated by my R2006-1 model, which the PRC adopted, was for FY2008, using a projected hourly wage rate equal to \$37.99, whereas the FY07 model in LR-11 uses a corresponding wage rate of only \$35.91, so that one would expect it to show slightly lower worksharing cost differentials, other factors being even.

## **2. THE PERIODICALS FLATS MODEL**

The new model version, included in LR-11, has a number of updates to the model I prepared in R2006-1. Additionally, the Postal Service discusses various changes and/or further analyses it believes may be justified in the future. I attempt to respond to some of the major issues raised in the following.

### **The CRA Adjustment**

The Postal Service expresses concern that the CRA adjustment factor for piece sorting costs was hardcoded to 1 in R2006-1, with the entire adjustment therefore being applied to other modeled processing costs, i.e. the costs of handling bundles and containers.

I tend to agree. For reasons explained below, my recommendation would be to apply an overall CRA adjustment factor, excluding only the flats preparation costs that already are based on CRA and therefore require no further adjustment.

In general, when modeled costs are significantly different from the actual costs, as measured by the CRA, it is an indication that the model is not fully aligned with operational reality. A "CRA adjustment" that raises or lowers all modeled costs by the same ratio is never an ideal solution, since it may be only one particular type of cost that the model has failed to represent accurately.

My intention in developing two parts of the CRA adjustment was to minimize the distortion caused by an overall adjustment. If, for example, the model significantly under- or overstates the piece sorting related costs but represents other costs with reasonable accuracy, then use of two separate adjustments would bring the model closer to actual cost incurrence. That presumes, of course, that the CRA cost pools are aligned in a way that allows piece sorting related costs to be separated from other costs.

If we consider the modeled and CRA costs in the FY07 model, as shown on the 'CRA Flats' worksheet, it appears that the CRA costs associated with pure piece sorting (\$584.73 million, cell G92) far exceed the corresponding modeled costs (\$396.95 million, cell F92). That would suggest a very large increase in the piece sorting related model costs. One reason for the large discrepancy is that the \$584.73 million include about \$41.88 million in Outside County bundle preparation (035) costs, although those costs are modeled as allied rather than direct piece sorting costs. Subtracting the 035 costs leaves CRA piece sorting costs equal to \$541.85 million, compared with only \$396.95 million in modeled costs, which suggest that these

modeled costs, rather than being considered perfect, should be increased by a factor of 1.367. I am not suggesting that such an adjustment should be applied, but at least it seems inappropriate to put the entire burden of this cost discrepancy on the bundle and container costs, when the CRA comparison in fact appears to suggest that these costs may have been slightly overstated by the model.

My R2006-1 model also appeared to suggest that the modeled direct piece sorting costs should be increased, albeit by a smaller factor than suggested by the current model.

In a separate write-up I discuss problems in the way the current model treats AFSM 100 costs, by ignoring the very substantial number of workhours in MODS operation 140 (AI mail preparation and induction). I propose an interim solution that I believe would substantially improve the model and would reduce the discrepancy between modeled and CRA piece sorting costs.

In addition, I can think of two other possible reasons why the model might tend to understate CRA based Periodicals piece sorting costs:

- (1) The model assumes that exactly half of the LD43 cost pool is piece sorting related and the other half is not. This is another undocumented assumption in the original model that should be made the subject of further analysis. I believe the Postal Service would be able, by analyzing IOCS tallies at each of the stations and branches cost pools, to determine more accurately what portion of those costs are related respectively to piece sorting, bundle sorting, container handling or various allied processing tasks.

- (2) The piece sorting productivity rates used by the model are based on MODS data, which do not differentiate between classes of mail. Most flats are Standard flats that generally are lighter and easier to process both in automated and manual sorting, as well as less likely to be diverted from automated to manual sorting. This suggests that a piece sorting model based on MODS productivity rates is likely to understate the piece sorting costs incurred by Periodicals flats.

Until these issues have been addressed in some way, I would suggest that it may after all be better to use the overall CRA adjustment applied to all modeled costs. However, before applying such an adjustment, the 035 flats preparation costs should be subtracted both from the modeled and CRA costs. Because those costs already are CRA costs, it makes no sense to apply a CRA adjustment to them. Excluding the 035 costs yields an overall adjustment factor equal to 1.0968, versus the 1.0932 indicated in the USPSFY07 model. With the adjustment to the modeling of AFSM-100 costs, referred to above and described separately, I believe the needed overall CRA adjustment factor would be considerably closer to 1.0

**The Assumption that 85% of flats at AFSM 100/UFSM 1000 equipped facilities receive incoming secondary sort on that equipment**

The value of this factor should in my opinion not be considered cast in stone but should be adjusted so as to represent operational reality as closely as possible.

Evidence described in my R2006-1 testimony, as well as the testimony of witness Glick, suggested that it would be inconsistent with operational reality to assume that this factor is equal to 100%. In other words, there is, or at least was, evidence that Periodicals flats often receive manual incoming secondary sorting even when they are in a facility equipped to perform such sorting on a machine. Stated differently, sole reliance on "coverage factors" may understate the extent to which Periodicals are sorted manually in the incoming secondary function.

The following is a brief summary of the R2006-1 events relevant to the 85% factor:

- It was established that if one relies only on "coverage factors" as in witness Miller's testimony, one would conclude that only about 20% of Periodicals non-carrier route flats receive manual incoming secondary sorting.
- Witness McCrery indicated in an interrogatory response that in reality 44.7% of Periodicals non-carrier route flats receive manual incoming secondary.
- McCrery indicated a total of ten different reasons (e.g., service considerations) why Periodicals flats may be sorted manually even when they are in a processing facility that possesses the equipment to machine sort them.
- I showed in my testimony that use of the 85% factor was equivalent to assuming that roughly 40% of such flats receive manual incoming secondary;
- Witness Miller's rebuttal testimony described problems with the data McCrery had relied on and presented a different analysis that indicated the true percentage was 30.87%.
- Oral cross-examination identified flats volumes that Miller's analysis had excluded, indicating that the percentage must be higher than 30.87%, though probably less than the 44.7% that McCrery had indicated.

Had all of the facts referred to above been known at the time I prepared my testimony and the model that later was adopted, I would probably have used a factor somewhat higher than 85%, such as 90%. The Postal Service may be able to survey its own operations to obtain a more accurate factor.

**The Assumption that 50% of bundles worked on an MMP scheme will not need transportation to another facility**

I inherited this assumption from the LR-I-332 model that was prepared by Christensen Associates in R2000-1. When bundles sorted at an ADC (MMP) scheme

end up at a three digit sort level (i.e. requiring next a 3-digit/SCF bundle sort), they could either be going to a 3-digit Zip code area served by the ADC, or to a Zip code served by another SCF in the ADC service area. In the latter case they require one more transportation step (to the destinating SCF) than if they were to a Zip code served directly by the ADC. Consequently, they will also incur additional non-transportation costs, related to movement to the platform, loading onto a truck to the DSCF and unloading at the DSCF.

In my R2006-1 model, it is assumed that exactly half of the bundles discussed above require transport to the DSCF, while the ADC itself is the DSCF for the other half. That assumption is applied to 3-digit, 5-digit and carrier route bundles that end up in a 3-digit/SCF container after sorting on an ADC (MMP) bundle sorting scheme. However, in the USPSFY07 model, if I interpret it correctly, it appears that the 50% factor is applied only for 3-digit bundles that end up in 3-digit containers, but not for any 5-digit or carrier route bundles that end up in such containers.

Regarding bundles that end up in 5-digit containers after the ADC bundle sort and require a further 5-digit bundle sort (e.g., carrier route bundles), both my R2006-1 model and the USPSFY07 model appear to assume that in all cases those bundles would first need to be transported to the destinating SCF and subsequently to the destinating DDU. But when an ADC sorts bundles into a 5-digit container, it might be more likely that it is for one of the 5-digit Zip codes that it serves as an SCF and that the only transportation required may therefore be to the DDU. If my interpretation is correct, it would appear that transportation related costs for those bundles are being overstated in the model.

I believe it would be possible for the Postal Service to determine an accurate estimate of the percent of bundles that, after being sorted in an ADC scheme, must be transported to a different SCF for further processing. That percentage may differ between bundles at different presort levels and may also differ between bundles sorted into 3-digit and 5-digit containers. One way to determine these percentages would be to: (1) use information on the sorting scheme used for ADC bundle sort in each ADC; and (2) based on the large number of mail.dat files the Postal Service collects a profile of the destination Zip codes for bundles in Periodicals ADC containers could be extracted.

#### **The assumption that 64% of MADC bundles receive sorting on SPBS or APPS machines**

This assumption comes from LR-I-88 in R2000-1. It was relied on in the Postal Service's R2001-1 Periodicals flats model. According to those results, other bundles in MADC sacks, as well as bundles in ADC sacks, received from 74% to 80% mechanized sorting. In other words, MADC bundles were found less likely than other outgoing bundles to receive mechanized sorting.

In Dockets R2005-1 and R2006-1, the Postal Service's flats models relied on the coverage factors in LR-L-44, which distinguish between originating and destinating

bundle sorts but not between individual bundle and container presort levels. LR-L-44 shows simply that 78.67% of originating Periodicals flats are in facilities with either APPS or SPBS/LIPS bundle sorting capability. Since the total percent of mechanized sorting was about the same in the older LR-I-88 study, except for MADC bundles, I assumed that the percentage of mechanized sorting for MADC bundles would still be lower than for other originating bundles.

Since MADC sacks of Periodicals flats now are treated differently from before, it is possible that a higher percentage than before of MADC bundles are sorted in large facilities and therefore more likely to be sorted on APPS or SPBS machines.

### **The percentage of MADC sacks that are L201 sacks**

Pages 40-41 of my R2006-1 testimony explain my reason for assuming that 40% of MADC sacks are L-201 sacks. At the time I prepared that testimony, the concept of L-201 sacks was quite new. Today, however, I believe the Postal Service should be able to determine, or conduct a survey to determine, the true percentage of MADC sacks that are L-201 sacks.

Regarding MADC sacks produced by larger mailers, who provide mail.dat files, such a determination should be straightforward. But a significant portion of MADC sacks are produced by very small mailers, and it may require another special survey to determine the composition of those sacks.

### **The percentages of 5-d, CRS and CR sacks that are opened at the DDU**

As explained at page 39 of my R2006-1 testimony, I had to make some assumptions that seemed reasonable to me, regarding the percentages of such sacks that are opened at the DDU rather than at the mail processing plant. But obviously the Postal Service is in a better position to determine what those percentages actually are.

### **Bundle Densities**

The LR-I-88 bundle density data that have been used since R2000-1 indicate that when a 5-digit flats bundle is sorted into a 5-digit container at a bundle sorting operation it has a 78.31% probability of needing an additional bundle sort, before its pieces can be sent to an incoming secondary piece sorting operation. According to that library reference, only 21.69% of such bundles would go directly to piece sorting.

The Postal Service now suggests that only 25.3 % of such bundle require an additional bundle sort and that the rest (74.7%) would go directly to piece sorting. It says that the 74.7% is the proportion of pieces receiving an incoming secondary sort on mechanized equipment according to the LR-L-44 coverage factors. But in reality, the 74.7% represents the proportion of destinating bundle sorts, whether ADC, 3-digit/SCF or 5-digit, that are performed on either APPS or SPBS machines, with 25.3% of such bundle sorts being done manually.

It is quite possible that a bundle sort performed manually would produce a 5-digit container containing only 5-digit bundles that therefore require no further bundle sort before being sent to piece sorting. On the other hand, it is conceivable that a mechanized (APPS or SPBS) bundle sort could produce a 5-digit container that contains both 5-digit and carrier route bundles, thus requiring one more bundle sort.

I believe the 78.31/21.69% split indicated by LR-I-88 may exaggerate the number of bundle sorts required by 5-digit bundles. On the other hand, for reasons explained above, the 25.3/74.7% split that is being proposed to replace it seems to be the answer to a different question.

I believe that to determine the correct and current bundle density factors, the best way would be to conduct a new study of the sorting schemes used on bundle sorting operations in different facilities, similar to the study described in LR-I-88.